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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/361,893	07/27/1999	CHRISTOPHER L. MCCRANK	2000.009700	6115
23720	7590	11/18/2004		
WILLIAMS, MORGAN & AMERSON, P.C. 10333 RICHMOND, SUITE 1100 HOUSTON, TX 77042			EXAMINER CHANG, EDITH M	
			ART UNIT 2637	PAPER NUMBER

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/361,893

Applicant(s)

MCCRANK ET AL.

Examiner

Edith M Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments/Remarks

1. Applicant's arguments, see pages 10 and 11, filed July 1, 2004, with respect to claims 1-20 have been fully considered and are persuasive. The 35 U.S.C. 112 first paragraph rejection of claims 1-20 has been withdrawn.

2. Applicant's arguments filed July 1, 2004 have been fully considered but they are not persuasive. The 35 U.S.C. 103 rejection of claims 1-20 is upheld.

Applicants argues that the references do not teach or suggest selecting a second frequency by multiplying the initial frequency during a time period within the first time frame and subsequently performing communication in a second time frame.

In FIG.3, Taki discloses selecting a second frequency the receiving frequency of the base unit receiver in the first time frame (phases 51, 52 and 53 composed the first frame and phase 54 is the second frame). Hence Taki discloses selecting a second frequency during a time period (the time period of 53 in the first frame) within the first time frame; and the base station receives over the second frequency in the phase 54 (is the second frame) of the FIG.3.

In FIG.2, Taki teaches the frequency synthesizer to generate the hopping frequency (or the second frequency). Taki's frequency synthesizer provides the frequencies for hopping.

Kung teaches and shows the detail of the frequency synthesizer comprising the VCO selecting an initial frequency to set up the desired frequency for frequency hopping between two communication units in FIG.1 and its algorithm in column 3 lines 45-55 & column 4 lines 40-60

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wherein the VCO (element 28 FIG.1) selecting the initial frequency F_{out} for carrier frequency (f_N in FIG.2 of Taki) and multiplying the initial frequency by the mixer/multiplier stated in column 3 lines 20-30 accordingly to get the carrier frequency (the f_N in FIG.2 of Taki), and wherein the frequency hopping requires to perform changing the next frequency communicated between two units in the next hop (such as frame) in this hop before hopping to the next frequency in Kung's teaching.

As Taki's base station and handsets with the frequency hopping equipment and method (Abstract, FIG.2) by using the frequency synthesizer (40 FIG.2) to set the frequency, at the time of the invention, it would have been obvious to one of ordinary skill in the art to implement the frequency synthesizer taught by Kung et al. in Taki's system to provide the carrier frequency f_N to have the benefit of an effective and inexpensive way to select the radio frequency (column 2 lines 3-10), hence the modification/combination is proper.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taki (US 5966665) in view of Kung et al. (US 4654859).

Regarding **claims 1 & 11**, except explicitly specify the VCO, Taki teaches a method and apparatus for transmitting between first and second communication units (10 & 11 FIG.1) of

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which each comprises a controller (FIG.2) to set the communication over a plurality of radio frequencies (column 7 lines 35-38). They comprise: setting the first and second units to transmit and receive communication over a first radio frequency during a first time frame (FIG.13 A0 is the first radio frequency during the first time frame comprising the phases 51-53/61-63); selecting a second radio frequency during a time period within the first time frame (FIG.3 phase 53 when the second radio frequency is selected according to the pattern, column 2 lines 45-54 where the hop frequency is generated during each frame, FIG.3, column 4 lines 35-50 where during a time period within the frame select the radio frequency); and setting the first and second communication units to respectively receive and transmit communication over the second radio frequency during a second time frame (A1 FIG.13, FIG.3 the second time frame is the 54 and 64, phase 64 for Tx and phase 54 for Rx). However Kung et al. teaches a frequency synthesizer for frequency hopping by using the VCO and the frequency multiplier (FIG.1, column 3 lines 20-28) to multiply the initial frequency provided by the reference oscillator 10 to provide the second frequency (FIG.1, column 3 lines 45-55, column 4 lines 42-60, where the initial frequency is derived from F_1/F_c to F_{out} and subsequently multiply to get the carrier frequency accordingly as stated in column 3 lines 20-28). As using the frequency synthesizer (40 FIG.2) to set the frequency by T_{aki} , at the time of the invention, it would have been obvious to one of ordinary skill in the art to implement the frequency synthesizer taught by Kung et al. in Taki's system to provide the carrier frequency f_N to have an effective and inexpensive way to select the second radio frequency (column 2 lines 3-10).

Regarding **claims 2-4, & 12**, Taki discloses features cited in these claims: selecting the next (the second or third) radio frequency during the current time frame (the first or second time

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frame) by controller of each unit to transmit communication between transmitter and receiver (22, 23, 43 FIG.2, column 4 lines 13-18) of the first and second units.

Regarding **claims 5-7, & 13-15**, Taki discloses features cited in these claims, since Taki teaches the frame structures in FIG.3 and column 4 lines 33-49 that the transmitter and receiver of the first and second units can be set to transmit and receive at the time frame at the selected frequency respectively.

Regarding **claims 8-9, & 16-17**, except explicitly specify tripling the initial frequency by a frequency multiplier, Taki discloses selecting a second radio frequency during the first time frame (refer the rationale of claim 1). However Kung et al. teaches selecting an initial frequency by a VCO (FIG.1, column 3 lines 45-55, column 4 lines 42-60, where the initial frequency is $F1/Fc$) and tripling the initial frequency by a frequency multiplier to select a second radio frequency (where the N/M or $F+2*\Delta F$ triples the initial frequency as chosen design). As using the frequency synthesizer (40 FIG.2) to set the frequency by Taki, at the time of the invention, it would have been obvious to one of ordinary skill in the art to implement the frequency synthesizer taught by Kung et al. in Taki's system to triple the initial frequency to have an effective and inexpensive way to select the second radio frequency (column 2 lines 3-10).

Regarding **claims 10, & 18-19**, Taki discloses the first communication unit is a base unit (10 FIG.1, column 1 lines 12-18) and the second communication unit is a remote unit of a cordless telephone (11 FIG.1, column 1 lines 12-18).

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5. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taki (U.S. Patent 596665) in view of Kung et al. (US 4654859) as applied to claim 1 above, and further in view of Deutsch et al. (U.S. Patent 5590410).

Regarding **claim 20**, Taki teaches the base unit is coupled to the external telephone circuit (column 3 lines 45-49), however does not explicitly specify the external telephone circuit is the PSTN. Deutch et al. disclose a base unit performing the frequency hopping is coupled to the PSTN (18, 12 FIG.1). Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to have the Taki's base unit coupling to the PSTN taught by Deutsch et al. to establish communications between base unit and remote unit in a telephone system (column 1 lines 63-67).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M Chang whose telephone number is 571-272-3041. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayanti Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Edith Chang
November 7, 2004


YOUNG T. TSE
PRIMARY EXAMINER